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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,684	04/25/2005	Jorg Mayer	FRG-15998	7308

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EXAMINER	
BALLINGER, MICHAEL ROBERT	
ART UNIT	PAPER NUMBER
3732	
MAIL DATE	DELIVERY MODE
02/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,684	MAYER ET AL.	
	Examiner	Art Unit	
	Michael R. Ballinger	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26,46 and 47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 46-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____.

DETAILED ACTION

1. In acknowledgement of the amendments filed 21 January 2010, claims 1-26 and 46-47 are currently pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 January 2010 has been entered.

Claim Objections

3. Claims 1-26 are objected to because of the following informalities: lines 13-16 of claim 1 recites "said cutting edges **are are** distanced from the implant axis by implant-axis-to-cutting-edge-distances..." The claim as currently amended recites the word "are" twice in succession. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-19, 21-26 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aeschlimann et al. (WO/02069817) in view of Nikoghossian (U.S. 3,672,058).

6. Per claim 1 and 46-47, figures 20-22 of Aeschlimann teaches a bone implant (i.e. implant 7) suitable for implantation in an implantation direction parallel to an implant axis in a cavity surrounded by a cavity wall of bone tissue (i.e. jawbone, 32), including implant portion including a first type of surface ranges (i.e. cylindrical piece, 44) of a material that is liquefiable by mechanical oscillation (page 18, lines 11-16 of translation) or a second type surface ranges (44) formed by pressing the liquefiable material out of a hollow space (i.e. porous sleeve material, page 18, line 14) and the implant portion includes cutting edges (i.e., C, D, and E, as illustrated below), the cutting edges are located outside the surface ranges (44), the cutting edges not extending in a common plane with the implant axis, face towards the distal end region of the implant and extend partly around the circumference of the implant (i.e., the cutting edges extend *partly* around the circumference of the implant, as evidenced by the cross-sectional view of figure 22).

7. The Examiner notes, Aeschlimann fails to explicitly teach the cutting edges are capable of cutting the cavity wall of bone tissue or that the cutting edges are distanced from the implant axis by an implant-axis-to-cutting-edge-distance which decreases in the implantation direction. However, figure 1 and 2 of Nikoghossian teaches cutting edges distanced from an implant axis which decrease in the implantation direction and cutting edges which are capable of cutting the a cavity wall of bone tissue (column 2, lines 1-4). Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Aeschlimann by decreasing the implant-axis-to-cutting-edge-distance in the implantation direction as taught by Nikoghossian in order to provide a self-drilling screw thereby simplifying the implantation process by not requiring a separate drilling step.

8. Per claims 2-4, Aeschlimann teaches the cutting edges have a wedge angle of less than 90 degrees (as illustrated below), are salient (i.e. cutting edges on the left side of figure 22 are jetting upward) and are under cut to form a chip space (as illustrated below).

9. Per claims 6 and 7, figure 8 of Aeschlimann teaches openings (i.e. the openings in sleeve, 13) leading into depressions (i.e. the openings are depressed into the sleeve) and the depressions are grooves extending axially (i.e. top to bottom of figure 8) in the implant region.

10. Per claim 8, figure 22 teaches osseointegrative surfaces are situated between the surface ranges of the liquefiable material (as illustrated below).

11. Per claims 10 and 13 figure 22 clearly indicates the cutting edges extending along parts of the circumference of the implant forming lower edges of scale like structure and the implant tapering towards a distal end.

12. Per claim 12, figure 22 teaches the proximal end region includes a ring (i.e. top portion of cylindrical piece, 44) of thermoplastic material (i.e. polyester, page 12, lines 30-31 as the liquefiable material).

13. Per claim 14 and 15, figure 22 of Aeschlimann teaches the implant including steps with cutting edges, the steps having edges with wedge angles of 90 degrees or more (as illustrated below). Also, per claim 16, Aeschlimann teaches the implant has an essentially cylindrical from and cutting edges protruding from the implant and being distanced from the implant axis by distances which decrease in the direct of the implantation (i.e. cutting edge C is further from the implant axis than cutting edge E as illustrated below).

14. Per claim 17 figure 22 of Aeschlimann illustrates the cutting edges are aligned in series in the axial direction (i.e. cutting edges C-D-E as illustrated below). Furthermore, per claim 18,

figure 22 teaches two series of cutting edges (i.e. C-D-E as illustrated below) facing each other, and surface ranges of liquefiable material are situated between the series on the implant structure (illustrated below).

15. Per claim 19, Aeschlimann teaches a hollow space (42: figure 22) and a piston (i.e. bottom cylindrical portion of artificial tooth, 42 shown in figure 20).

16. Per claims 21-23 , figure 20 of Aeschlimann teaches the implant is a dental implant which carries an intermediate element (i.e. artificial tooth, 40) and the intermediate element is connected by a loose fit connection (page 17, lines 27-34).

17. Per claim 24, Aeschlimann teaches means for fastening an abutment, a crown, a bridge or a set of dentures (page 17, lines 29-30). Per claims 25 and 26, figure 27 of Aeschlimann teaches the implant is a shaft which is adapted to bridge a bone defect.

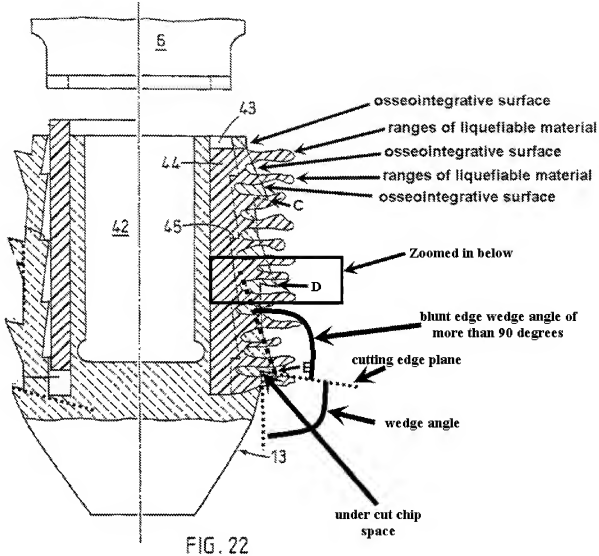

FIG. 22

18. **Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aeschlimann et al. (WO/02069817 A1) in view of Nikoghossian (U.S. 3,672,058) as applied to claim 1 above, and further in view of Lazarof (U.S. 6,142,782)**

19. The Examiner notes the claim includes claim element "means for an insulating connection", is a means plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. The written description discloses this "means" as "the piston is equipped with finely pitched thread 44, when pushed into the hollow space, 26 is cold-welded to the wall of the hollow space". Therefore, the Examiner has interpreted this limitation as threading which when compressed creates a cold welding between the piston and implant and equivalents. Aeschlimann et al. and Nikoghossian fail to explicitly disclose this limitation; however, Lazarof teaches a piston (i.e. draw screw, 80) including a threaded portion (i.e. threaded shank, 86) which when compressed into the implant (60) causes a cold welding connection (column 7, lines 42-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time then invention was made to modify the piston-implant connection of Aeschlimann and Nikoghossian to include the threaded cold-welding connection of Lazarof, in order to prevent harmful bacteria from entering the internal hollow of the implant.

Response to Arguments

20. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Ballinger whose telephone number is (571)270-5567. The examiner can normally be reached on Monday thru Friday 8:00 AM to 5:00 PM.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris L. Rodriguez can be reached on (571)272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Ballinger/
Examiner, Art Unit 3732

/Cris L. Rodriguez/
Supervisory Patent Examiner, Art Unit 3732